

## WHAT CLAIMED IS:

1. A method for controlling a bias power of an optical disk device comprising:

generating a bottom envelop signal from a power sampling signal sensed  
5 by a photodiode of the optical disk device;

sampling the bottom envelope signal; and

controlling a bias power of the optical disk device in responsive to the  
sampled bottom envelope signal.

2. The method according to claim 1 wherein a frequency of the bottom  
10 envelope signal is lower than that of the power sampling signal.

3. The method according to claim 1 wherein the step of generating the  
bottom envelope signal comprises:

obtaining a negative half-wave of the power sampling signal;

selecting a candidate signal from the negative half-wave of the power  
15 sampling signal and the bottom envelope signal; and

obtaining a bottom value of the candidate signal as a next bottom envelope  
signal.

4. The method according to claim 3 wherein a high frequency signal of the  
next bottom envelope signal is filtered out before performing the sampling step.

20 5. A method for controlling a write power of an optical disk device  
comprising:

generating a peak envelop signal from a power sampling signal sensed by  
a photodiode of the optical disk device;

sampling the peak envelope signal; and

controlling a write power of the optical disk device in responsive to the sampled peak envelope signal.

6. The method according to claim 5 wherein a frequency of the peak envelope signal is lower than that of the power sampling signal.

5        7. The method according to claim 5 wherein the step of generating the peak envelope signal comprises:

obtaining a positive half-wave of the power sampling signal;

selecting a candidate signal from the positive half-wave of the power sampling signal and the peak envelope signal; and

10       obtaining a peak value of the candidate signal as a next peak envelope signal.

8. The method according to claim 7 wherein a high frequency signal of the next peak envelope signal is filtered out before performing the sampling step.

9. A bias power control circuit of an optical disk drive comprising:

15       a bottom envelope acquiring circuit for outputting a bottom envelope signal in responsive to a power sampling signal sensed by a photodiode of the optical disk device; and

20       a bias-period sample-and-hold circuit for sampling and outputting the bottom envelope signal wherein the bias power is controlled according to the sampled bottom envelope signal.

10. The bias power control circuit according to claim 9 wherein a frequency of the bottom envelope signal is lower than that of the power sampling signal.

11. The bias power control circuit of claim 9 wherein the bottom envelope acquiring circuit further comprises:

a selector for outputting a candidate signal selected from the bottom envelope signal and a negative half-wave of the power sampling signal;

a bottom detector for obtaining a bottom value of the candidate signal as a next bottom envelope signal.

5        12. The bias power control circuit of claim 11 further comprising an amplifier for filtering out a high frequency signal of the next bottom envelope signal before being sampled.

10        13. The bias power control circuit of claim 11 wherein a diode driving circuit of the optical disk drive adjusts the bias power according to the sampled bottom envelope signal.

14. A write power control circuit for an optical disk drive comprising:

a peak envelope acquiring circuit for outputting a peak envelope signal in responsive to a power sampling signal sensed by a photodiode of the optical disk device; and

15        a write-period sample-and-hold circuit for sampling and outputting the peak envelope signal wherein the write power is controlled according to the sampled peak envelope signal.

20        15. The write power control circuit according to claim 14 wherein a frequency of the peak envelope signal is lower than that of the power sampling signal.

16. The write power control circuit of claim 14 wherein the peak envelope acquiring circuit further comprises:

a selector for outputting a candidate signal selected from the peak envelope signal and a positive half-wave of the power sampling signal;

a peak detector for obtaining a peak value of the candidate signal as a next peak envelope signal.

5 17. The write power control circuit of claim 16 further comprising an amplifier for filtering out a high frequency signal of the next peak envelope signal before being sampled.

18. The write power control circuit of claim 14 wherein a diode driving circuit of the optical disk drive adjusts the write power according to the sampled peak envelope signal.